

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EUGENE R. ZEHLER

Appeal 2006-2269
Application 10/051,938
Technology Center 3600

Decided: January 19, 2007

Before BRADLEY R. GARRIS, CHARLES F. WARREN, and
JEFFREY T. SMITH, *Administrative Patent Judges*.

GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal involves claims 38-40, 43, 46-48, 52, 54-56, 59, 62-64, 67-70, 73, 76-78 and 81-84. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 134.

We AFFIRM and REMAND.

INTRODUCTION

The claims are directed to a shock absorber containing one or more biodegradable esters as the dampening fluid (Specification 1, ll 3-4). Claims 38 and 46 are illustrative:

38. A shock absorber comprising a cylinder, the cylinder defining a chamber therein and containing a fluid; a piston rod sealingly projecting into the cylinder, the piston rod being axially displaceable with respect to the cylinder; a piston attached to the piston rod, the piston being slidably disposed within the cylinder to sealingly divide the cylinder into a first chamber and a second chamber; a passageway disposed in at least a portion of the piston providing for fluid communication between the first and second chambers; wherein the fluid comprises a biodegradable polyol ester, said polyol ester having a polyol component and a carboxylic acid component, the polyol component comprising a hindered polyol and the carboxylic acid component comprising a mixture of two or more C₅, C₆, C₇, C₈ and C₉ linear monocarboxylic acids; and wherein said fluid is at least 80% biodegradable.

46. The shock absorber according to claim 38, wherein said carboxylic acid component further comprises a dicarboxylic acid.

The Examiner relies on the following prior art references as evidence of unpatentability:

Funkhouser	US 2,630,193	Mar. 3, 1953
Duncan	US 5,681,800	Oct. 28, 1997

The rejections as presented by the Examiner are as follows:

1. Claims 46-48, 62-64 and 76 are rejected under 35 U.S.C. § 112, 1st paragraph as containing subject matter which was not described in the Specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

2. Claims 38-40, 43, 52, 54-56, 59, 67-70, 73, 77-78 and 81-84 are rejected under 35 U.S.C. § 103(a) as unpatentable over Duncan in view of Funkhouser.¹

Rather than reiterate the respective positions advocated by the Appellant and by the Examiner concerning these rejections, we refer to the Brief and Reply Brief, and to the Answer respectively for a complete exposition thereof.

The claims were not argued separately. Accordingly we choose claims 38 and 46 as the representative claims on which it render our decision.

OPINION

35 U.S.C. § 103(a) REJECTION OVER DUNCAN IN VIEW OF FUNKHOUSER

The Examiner rejected claims 38-40, 43, 52, 54-56, 59, 67-70, 73, 77-78 and 81-84 under § 103(a) over Duncan in view of Funkhouser. The Examiner stated that Duncan discloses biodegradable lubricants including the use of these lubricants as hydraulic fluids (Answer 3). Referring to Duncan's Table 8, the Examiner found that the disclosure of "TPE/C810/Ck8" includes pentaerythritol (a polyol) with a carboxylic acid (C810) having a mixture of linear C6 and C8 acids, and a biodegradability of at least 80% (Answer 3-4). However, the Examiner noted that Duncan fails to disclose the claimed shock absorber structure. The Examiner found that

¹ There appears to be an inconsistency between the rejection of at least claim 40, which recites that the hindered polyol is trimethylolpropane, and the allowance of claim 53 which appears to be identical to claim 40. See our REMAND section for a more detailed discussion of the conflict.

Funkhouser demonstrates that the claimed shock absorber structure is conventional in the art. The Examiner concluded that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine “the fluid disclosed by Duncan . . . with a shock absorber as taught by Funkhouser as an obvious implementation of the fluid which addresses environmental concerns with regards to leaking shock absorbers” (Answer 4).

Appellant argues that the “C810” acid disclosed by Duncan is a linear carboxylic acid mixture composed of n-C8 and n-C10 acids with minor amounts of n-C6 and n-C12 acids present (Br. 10). Appellant further argues that Duncan does not contain any teaching that “C810” has a mixture as claimed or that it is used as a dampening fluid (Br. 10).

Appellant also argues that Duncan provides no indication of any beneficial result (i.e., better dampening capabilities or improved biodegradability) from including a C6 acid in the “C810” composition (Br. 10-11). In this regard, Appellant further argues that Duncan does not disclose a dampening fluid having a C6 acid (Br. 10). Appellant contends that, given Duncan’s focus on mixing linear and branched acids, there would be no motivation or reasonable expectation of success in forming a mixture as claimed by Appellant (Br. 11).

The Examiner responds that Duncan’s Table 8 discloses that the “TPE/C810/Ck8” is a polyol ester which contain a hindered polyol (i.e., pentaerthitol) and a carboxylic acid (i.e., C810) (Answer 5). The Examiner indicates that both Table 1 and 2 and column 20, lines 44-50 of Duncan disclose that “C810” contains C6 and C8 acids (Answer 5). The

Examiner states that Duncan discloses a variety of applications for the biodegradable lubricant, including use as hydraulic fluid (Answer 5-6).

We have considered all of Appellant's arguments and find them unpersuasive. We agree with the Examiner's ultimate conclusion that the claims are unpatentable over Duncan in view of Funkhouser.

Duncan indicates that the composition "TPE/C810/Ck8" contains a hindered polyol (i.e., TPE (technical grade pentaerythritol)) and a mixture of C6, C8, C10 and C12 carboxylic acids (i.e., "C810") (*see* the footnotes to Tables 1, 2, and 3). Moreover, Appellant discloses that suitable "hindered polyols" include "but are not limited to . . . pentaerythritol, dipentaerythritol . . ." (Specification 3, ll, 13-15), which are the same polyols used by Duncan as above noted.

We note that Appellant uses the open-ended transitional language "comprising" when claiming the biodegradable "fluid." Such open-ended claim language leaves the claim open to the presence of any other compounds in addition to those recited in the claim. *Genentech, Inc. v. Chiron, Corp.*, 112 F.3d 495, 501, 42 USPQ2d 1608, 1613 (Fed. Cir. 1997) ("Comprising" is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim). Therefore, the mere presence of C10 and C12 acids in the "C810" mixture would not prevent Duncan's disclosure that "C810" also possesses C6 and C8 acids from satisfying the particular claim feature of "at least two or more C5, C6, C7, C8 and C9 linear monocarboxylic acids."

We are not persuaded by Appellant's argument that Duncan fails to disclose that the polyol ester containing the "C810" with a C6 acid should be

used as a dampening (i.e., hydraulic) fluid. As the Examiner indicates, Duncan discloses that his biodegradable fluids may be used as hydraulic fluid (Duncan, col. 13, ll. 25-45). As part of his disclosure, Duncan further indicates that when the fluid is used as hydraulic fluid, it is typically composed of about 90-99% of the base stock of polyol esters with the balance being additives (Duncan, col. 13, ll. 39-41). Duncan's broad disclosure reasonably appears to be applicable to any of his disclosed polyol esters, including the "TPE/C810/Ck8" blend cited by the Examiner.

We are unpersuaded by Appellant's argument that there is no motivation or reasonable expectation of success in creating a fluid having the mixture of linear carboxylic acids as claimed (i.e., a mixture of two or more C5 to C9 linear monocarboxylic acids). Duncan clearly discloses that "C810" acid mixture comprises a blend of C6 and C8 carboxylic acids (*See* Table 1, 2, 3 and 8). Therefore, Duncan not only provides motivation for making a mixture of linear monocarboxylic acids encompassed by Appellant's claims, but he also successfully produces the mixture as evinced by his examples.

Based on the foregoing, we affirm the Examiner's rejection of claims 38-40, 43, 52, 54-56, 59, 67-70, 73, 77-78 and 81-84 over Duncan in view of Funkhouser.

35 U.S.C. § 112, 1ST PARAGRAPH REJECTION

The Examiner rejected claims 46-48, 62-64 and 76 under § 112, 1st paragraph as containing new matter and thus violating the written description requirement of this paragraph. Specifically, the Examiner stated that the "limitations requiring a mixture of monocarboxylic acid and dicarboxylic acid . . . are not supported by the disclosure . . ." (Answer 3).

Appellant argues that the Specification, as filed, contained original claims which recited esters based upon a mixture of carboxylic acids having from 5 to 9 carbon atoms, and an incorporation-by-reference of US Patent 5,021,179 (henceforth indicated as Zehler '179) (Br. 6). Appellant contends that his Specification at page 3, lines 16-26, contemplates mixtures of polyol esters based upon various carboxylic acids, including mixtures of carboxylic acids disclosed in Zehler '179 (Br. 6-7). Appellant contends that Zehler '179 describes esters based upon "monovalent and divalent acids" which Appellant construes to mean monocarboxylic and dicarboxylic acids, respectively (Br. 7). Appellant argues that mixtures of monocarboxylic and dicarboxylic acids are described throughout Zehler '179 (Br. 7).

Appellant further argues that the Examiner inappropriately relies on *In re Smith*, 458 F.2d 1389, 173 USPQ 679 (CCPA 1972) to support his finding that the monocarboxylic and dicarboxylic acids claim features are not supported (Br. 8). Appellant argues that the holding in *Smith* is not applicable to the facts of the present appeal (Br. 9). Reasoning from the holding in *Smith*, Appellant contends that the "presently claimed mixtures of dicarboxylic acid and monocarboxylic acids are not a subgenus based upon a disclosure of a single species within that subgenus" (Br. 9). Rather, Appellant contends, the Specification "clearly contemplates the use of divalent carboxylic acids with a variety of monocarboxylic acids and mixtures thereof" (Br. 9).

Appellant argues that to find that he did not have possession of a mixture of a divalent carboxylic acid and monovalent carboxylic acids based on the disclosure of Zehler '179 would "require Appellant to literally disclose every possible combination of monovalent and divalent carboxylic

acids” (Br. 9). Appellant contends that he has specifically disclosed the claimed mixture of monocarboxylic acids and that he has further disclosed, via Zehler ‘179, the carboxylic acid component may include a dicarboxylic acid (Br. 9). Based on these disclosures, Appellant argues that one of ordinary skill in the art “would readily understand that the optional dicarboxylic acid can be incorporated into any of the disclosed monocarboxylic acid components or mixtures” (Br. 9).

The Examiner responds that Appellant’s “claims 46, 62 and 76 all require a polyol ester having a polyol component comprising a mixture of two or more C5, C6, C7, C8 and C9 linear mono-carboxylic acids, the carboxylic acid component further comprising a di-carboxylic acid, and the fluid having at least 80% biodegradability” (Answer 4). The Examiner contends that the original disclosure fails to disclose this claimed combination (Answer 4). Rather, the Examiner contends that “the mere suggestion that esters according to the invention can be made by the method described in the incorporated reference [Zehler ‘179] fails to support the specific fluid composition in the instant claims” (Answer 4). While the Examiner recognizes that Zehler ‘179 contemplates esters with monovalent and divalent acid components, nevertheless, the Examiner maintains that such disclosure does not support Appellant’s claim to “a carboxylic acid component comprising a mixture of two or more C5, C6, C7, C8 and C9 linear mono-carboxylic acids . . . [with a] dicarboxylic acid” (Answer 4-5).

The Examiner indicates that Appellant’s original disclosure (i.e., page 3, lines 1-5) specifies that the dampening fluid according to the invention is comprised of polyol esters where the carboxylic acid component is mono-carboxylic acid having about 5 to 18 carbon atoms (Answer 5). The

Examiner states that there is no indication that the instant invention at the time of filing was composed of anything other than mono-carboxylic acid (Answer 5).

Appellant replies that Zehler '179 must be read as if its entire disclosure were copied verbatim into the original disclosure of the subject Specification (Reply Br. 2-3). Appellant contends that one of ordinary skill in the art would have recognized that the combinations of monocarboxylic and dicarboxylic acids discussed in Zehler '179 could be used in conjunction with any of the embodiments disclosed in Appellant's Specification (Reply Br. 3).

We have considered all of Appellant's arguments and find them unpersuasive. We agree with the Examiner's ultimate conclusion that claims 46-48, 62-64 and 76 are properly rejected under §112, 1st paragraph as violating the written description requirement.

We note that Appellant's statement of incorporation by reference of the Zehler '179 patent on page 3 of his Specification indicates that the patent is being incorporated for its disclosure of the method for making polyol esters (i.e., "The esters according to the invention can be made *by the method* described in U.S. patent 5,021,179, the entire contents of which is incorporated by reference" (emphasis added)) (Specification 3, ll. 20-22). Therefore, we find that, by Appellant's own words, it is the method, not the particular compositions disclosed by Zehler '179, that Appellant seeks to incorporate. For this reason, Appellant's arguments directed to the various disclosures of Zehler '179 related to the "monovalent" and "divalent" acids are not persuasive.

Additionally, Zehler '179 is directed to "lubricants, lubricant base stocks, refrigerant working fluids including lubricants, along with primary heat transfer fluids and methods of using these materials" (Zehler '179, col. 1, ll. 6-9). Zehler '179 further describes that "the lubricants and lubricant base stocks are particularly suitable for use with substantially chlorine-free, fluoro-group-containing organic refrigerating heat transfer fluids such as tetrafluoroethanes" (Zehler '179, col. 1, ll. 9-12). The context of the Zehler '179 patent is directed to lubricants and refrigerant working fluids, not hydraulic fluids that are used in shock absorbers as is the currently claimed invention. This further supports our determination that Appellant's incorporation in his Specification of Zehler '179 is with respect to only the method of making the esters, not the particular compositions.

Moreover, we note that there is no indication from Zehler '179 alone or taken with Appellant's originally filed Specification that Appellant had possession of the mixture of monocarboxylic acids and dicarboxylic acid as claimed. *In re Smith*, 458 F.2d 1389, 173 USPQ 679 (CCPA 1972). We observe that Zehler '179 generically describes divalent and monovalent acids (Zehler, col. 3, ll. 21-29, 40-55). However, as the Examiner notes, we find no disclosure of the particular combination the Appellant is now claiming (i.e., "two or more C5, C6, C7, C8 and C9 linear monocarboxylic acids" and a dicarboxylic acid). In this latter regard, we observe that Table 3 of Zehler '179 discloses a combination of C5 and C4 monocarboxylic acids (i.e., pentanoic acid, 3-methyl butanoic acid, and 2-methyl butanoic acid) with a dicarboxylic acid (either adipic or azelaic acid). However, this disclosure does not support Appellant's claimed mixture of "two or more C5, C6, C7, C8 and C9 mono carboxylic acids" with a dicarboxylic acid.

Furthermore, given the factual scenario present in this appeal, we find that the Examiner's application of the holding in *In re Smith*, 458 F.2d 1389, 173 USPQ 679 (CCPA 1972) to be appropriate. Zehler '179 discloses a genus of compounds (i.e., monovalent and divalent acids) with a specific example to a species within the genus presented in Table 3 of Zehler '179 (i.e., mixture of pentanoic acid, 3-methyl butanoic acid, and 2-methyl butanoic acid with either adipic or azelaic acid). Appellant now claims a subgenus (i.e., monocarboxylic acids and dicarboxylic acid). We find proper the Examiner's determination that the disclosure in Zehler '179 of a genus (i.e., monovalent and divalent acids) and a species (i.e., pentanoic acid, butanoic acid, adipic acid and azelaic acid) within a subgenus (i.e., monocarboxylic and dicarboxylic acids) is not necessarily a sufficient description of the subgenus. *Smith*, 458 F.2d at 1395, 173 USPQ at 684. As discussed previously, we find no disclosure of the mixture of "two or more C5, C6, C7, C8 and C9 monocarboxylic acids" with a dicarboxylic acid in Appellant's original description.

As the Examiner has established via reasoning why one of ordinary skill in the art would not have considered Appellant's particular claimed combination of monocarboxylic acids and dicarboxylic acid to be described in the originally filed Specification, a prima facie case of lack of written description has been made. *In re Alton*, 76 F.3d 1168, 1175, 37 USPQ2d 1578, 1583 (Fed. Cir. 1996). To overcome a prima facie case of lack of written description, an applicant must show that the invention as claimed is adequately described to one skilled in the art. *Id.* at 1584-85. After the Applicant has submitted evidence or argument in response to the Examiner's prima facie case, patentability is determined on the totality of the record by a

preponderance of the evidence with due consideration to persuasiveness of argument. *Id.* at 1585.

In light of the foregoing discussion, it is apparent that the totality of the record demonstrates that Appellant has not met his burden of showing that the claimed combination of monocarboxylic acids and dicarboxylic acid was adequately described to one skilled in the art. Accordingly, the Examiner's rejection for lack of written description is sustained.

We affirm the Examiner's rejection of claim 46-48, 62-64 and 76 under § 112, 1st paragraph as violating the written description requirement.

REMAND

We remand this application to the Examiner to resolve an internal conflict between allowed claims 53 and 79-80 and rejected claims 40, 56, 70, 78, 82 and 84.

The Examiner indicated that claims 53 and 79-80 are allowed. We note that independent claim 53 is identical to claim 38 with the exceptions that claim 53 recites "trimethylolpropane" instead of "a hindered polyol" and the mixture of monocarboxylic acids in claim 53 is not literally described as having "two or more" C5 to C9 linear monocarboxylic acids. In effect, claim 53 is narrower than claim 38 only in respect to the "hindered polyol" being trimethylolpropane.² Because the Examiner did not include a

² Though claim 53 does not recite that the mixture of monocarboxylic acids comprises "two or more" of the C5 to C9 linear monocarboxylic acids, as claim 38 does, such language (i.e., "two or more") appears inherently to be present in claim 53. The recitation of "a mixture of C5, C6, C7, C8 and C9 linear monocarboxylic acids" in claim 53 may reasonably be construed as necessarily requiring "two or more" of the recited monocarboxylic acids because a "mixture" requires at least two components.

“Reasons for Allowance” in the prosecution history, we surmise that independent claim 53 and its dependent claims 79-80 were allowed because the polyol was limited to “trimethylolpropane.”

Dependent claims 40, 56, 70, 78, 82 and 84 all recite that the hindered polyol is “trimethylolpropane.” Claims 40, 56, 70, 78, 82 and 84 are all rejected under § 103(a) over Duncan in view Funkhouser. At least in the case of claim 40, the “hindered polyol” of claim 38 is limited to “trimethylolpropane”, such that the scope of claim 40, which depends on claim 38, is identical to allowed claim 53. Since at least claim 40 is rejected under § 103(a) over Duncan in view of Funkhouser, it appears that claims 53 and 79-80 which require “trimethylolpropane” as the polyol should be rejected similarly.

Duncan appears to teach a biodegradable polyol ester made from a trimethylolpropane and a mixture of C7 and C8 linear monocarboxylic acids (*See*, Table 8, “TMP/7810”). Based on Duncan’s teaching to use the disclosed fluids as hydraulic fluids, it would have been *prima facie* obvious to combine Duncan’s “TMP/7810” fluid with Funkhouser’s conventional hydraulic shock absorber to create a more environmentally friendly shock absorber.

From the foregoing, the allowed claims 53 and 79-80 appear to be unpatentable under § 103(a) over Duncan in view of Funkhouser.

Therefore, upon return of this application to the jurisdiction of the Examining Corps, the Examiner must determine whether claims 53 and 79-80 are unpatentable over Duncan in view of Funkhouser under 35 U.S.C. § 103(a) and make this determination of record consistent with current examining practice and procedure.

This remand to the Examiner pursuant to 37 C.F.R. § 41.50(a)(1) (2006) is *not* made for further consideration of a rejection. Accordingly, 37 C.F.R. § 41.50(a)(2) (2006) does not apply.

CONCLUSION

We have affirmed the § 103(a) rejection of claims 38-40, 43, 52, 54-56, 59, 67-70, 73, 77-78 and 81-84 over Duncan in view of Funkhouser.

We have affirmed the § 112, 1st paragraph rejection of claims 46-48, 62-64 and 76 as lacking written description.

The Examiner's decision is affirmed and the application is remanded to the Examiner.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv)(2006).

AFFIRMED & REMANDED

tf/clj

Cognis Corporation
Patent Department
300 Brookside Avenue
Ambler, PA 19002